

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. By this Amendment, Applicant has added new claim 5.¹ Thus, claims 1-5 are now pending in the application. In response to the Office Action (Paper No. 5), Applicant respectfully submits that the pending claims define patentable subject matter.

I. Preliminary Matters

The Examiner is requested to acknowledge receipt of the priority document and the claim for foreign priority under 35 U.S.C. § 119 in the next action.

Claim 1 is objected to because the Examiner maintains claim 1 contains grammatical errors. By this Amendment, Applicant has amended claim 1 to improve clarity. Accordingly, the Examiner is requested to remove the objection to claim 1.

II. Prior Art Rejections

Claims 1, 3, and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Palmgren et al. (WO 94/28684; hereafter "Palmgren") in view of Bishop, Jr. et al. (U.S. Patent No. 6,002,929; hereafter "Bishop"). Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Palmgren in view of Bishop and Sinivaara (U.S. Patent No. 6,055,425). Applicant respectfully traverses the prior art rejections.

¹ Dependent claim 5 recites subject matter which has been deleted from claim 1.

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By this Amendment, Applicant has amended claim 1 to recite that “said base station system utilizes said second antenna to communicate with said portable telephones via a wireless radio frequency communication link, and said base comprises means enabling the terminal to regulate its transmission power.” Applicant respectfully submits that Palmgren, Bishop and Sinivaara, alone or combined, do not teach or suggest these features of the claimed invention.

Palmgren discloses a mobile communication system 8 for use on an airplane or ship, wherein the system 8 includes a small GSM network 11 which has a base station BTS, a base station controller BSC and mobile switching center MSC. Connecting means 12 connect mobile stations MS to the network 11. The network 11 (MSC, BSC, BTS) identifies the mobile stations MS connected to the network 11, connects calls to and from the mobile stations MS, and records the services employed through the mobile stations MS. The system 8 further includes a transmitter-receiver means TFTS for wireless and external signal transmission between the network 11 on board and terrestrial network 1.

Bishop discloses an on-board aircraft telecommunication exchange 32 which provides communication and authentication services for subscriber identity modules (SIMs) using transceivers 36, wherein associations between the SIMs 56 and the transceivers 36 are established when needed. A SIM-based authentication process is performed using a subscriber's original SIM and authentication can be extended to a temporary SIM that is substituted for the original SIM throughout the remainder of a flight. Alternatively, the original SIMs 56 may be locked in place and relinquished when a subscriber provides an appropriate PIN. As noted by

the Examiner, Bishop (col. 9, lines 32-42) appears to disclose that transferring charging data is transferred to the ground station over the radio link.

However, the cited references do not disclose that the telephone terminals onboard the vehicle communicate with the base station system via a wireless (RF) communication link. That is, the present invention enables the use of standard mobile telephone terminals which communicate in the standard wireless manner with the onboard base station without the risk of interfering with onboard electronic equipment. In particular, standard mobile telephone terminals include means for regulating the transmission power such that the transmitted power is limited to a level high enough for a good communication link. Because the base station and antenna are inside the vehicle, the transmission power is reduced to a very low level such that there is no risk of interfering with electronic equipment of the vehicle. See, for example, page 4, lines 16-23 of the present application.

It is known in the art that the transmission power of a GSM mobile terminal is regulated by a method wherein the terminal regulating means collaborate with means integrated to the GSM base station. That is, the GSM standard (GSM 05.08 Version 5.1.0 July 1996, 4 RF power control, Section 4.1 Overall process) specifies that:

RF power control is employed to minimize the transmit power required by MS [mobile subscriber terminal] or BSS whilst maintaining the quality of the radio links. By minimizing the transmit power levels, interference to co-channel users is reduced. 4.2 MS implementation RF power control shall be implemented in the MS. The power control level to be employed by the MS is indicated by means of the power control information sent either in the layer 1 header of each downlink SACCH message block (see GSM 04.04), or in a dedicated signalling block (see GSM 04.08). The MS shall employ the most recently commanded power control level appropriate to the channel for all transmitted bursts on either a TCH (including handover access burst), FACCH, SACCH or SDCCH. The MS

shall confirm the power control level that it is currently employing in the uplink SACCH L1 header. The indicated value shall be the power control level actually used by the mobile for the last burst of the previous SACCH period. When accessing a cell on the RACH (random access) and before receiving the first power command during a communication on a DCCH or TCH (after an IMMEDIATE ASSIGNMENT), all GSM and class 1 and class 2 DCS 1800 MS shall use the power level defined by the MS_TXPWR_MAX_CCH parameter broadcast on the BCCH of the cell. The class 3 DCS1800 MS shall use the power level defined by MS_TXPWR_MAX_CCH plus the value POWER_OFFSET also broadcast on the BCCH of the cell. If a power control level defined in 05.05 is received but the level is not supported by the MS, the MS shall use the supported output power which is closest to the output power indicated by the received power control level.

None of the cited references teaches or suggests that (1) the base station system utilizes said second antenna to communicate with the portable telephones via a wireless radio frequency communication link and (2) the base station comprises means enabling the terminal to regulate its transmission power, in order to reduce the power of the terminal. Instead, the cited references teach suppressing the radio links and replacing them with cables or infra-red links.

Palmgren teaches that the mobile stations MS are connected to and communicate with the base station BTS via wiring 13 or infrared (IR) transmitter-receiver means for signal transmission on board the airplane (see page 5, lines 7-32 and page 8, line 31 - page 9, line 19). Similarly, Bishop teaches that telephone handsets 44 are connected via wiring to the subscriber exchange (see Fig. 2) and Sinivaara teaches that user terminals are connected via cables and an optical fiber array to a base transceiver station (see column 2, lines 28-65).

On the other hand, the claimed system is a novel application of the classical regulation method, which is characterized by the fact that the antenna of the base station is placed very close to the terminal, namely inside a same vehicle, to cause a reduction of the transmission power.

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Accordingly, Applicant respectfully submits that claims 1-5 should be allowable over the cited references.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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